UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/623,568		Barbara Miller	98-1895	5274

23377   7590   12/14/2007

WOODCOCK WASHBURN LLP
CIRA CENTRE, 12TH FLOOR
2929 ARCH STREET
PHILADELPHIA, PA 19104-2891

EXAMINER
ZEMAN, ROBERT A

ART UNIT	PAPER NUMBER
1645	

MAIL DATE	DELIVERY MODE
12/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
09/623,568		MILLER, BARBARA	

EXAMINER
Robert A. Zeman

ART UNIT	PAPER
1645	

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents

The communication filed on **6-6-2002** is not fully responsive to the Office communication mailed **7-11-2001** for the reason(s) set forth on the attached Notice to Comply With the Sequence Rules or CRF Diskette Problem Report.

Since the abbove mentioned reply appears to be *bona fide*, applicant is given a TIME PERIOD of ONE (1) MONTH or THIRTY DAYS from the mailing date of this notice, which ever is longer, within which to supply the omission or correction in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER C.F.R. 1.136(a).

The addresses below are effective 5 June 2004. Please direct all replies to the United States Patent and Trademark Office via one (1) of the following:

1. Electronically submitted through EFS-Bio
   (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>, EFS Submission User Manual - ePAVE)

2. Mailed to:
   Mail Stop Sequence
   Commissioner for Patents
   P.O. Box 22313-1450
   Alexandria, VA 22313-1450

3. Hand Carry, Federal Express, United Parcel Service or other delivery service to:
   U.S. Patent and Trademark Office
   Mail Stop Sequence
   Customer Window

Randolph Building
401 Dulaney Street
Alexandria, VA 22314

Any inquiry concerning this communication should be directed to Examiner Robert A. Zeman, Art Unit 1645, whose telephone number is (571) 272-0866.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

ROBERT A. ZEMAN
PRIMARY EXAMINER

Notice to Comply	Application No. 09/623,568	Applicant(s) MILLER, BARBARA
	Examiner Robert A. Zeman	Art Unit 1645

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☒ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☐ 7. Other:

Applicant Must Provide:
☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☒ An initial or substitute paper copy of the "Sequence Listing", **as well as an amendment specifically directing its entry into the application.**

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:
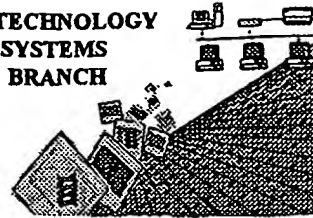
    For Rules Interpretation, call (571) 272-0731 or (571) 272-0951
    For CRF Submission Help, call (571) 272-2510
    PatentIn Software Program Support
    Technical Assistance.1-866-217-9197 or 703-305-3028 or 571-272-6845
    PatentIn Software is Available At www.USPTO.gov

PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR REPLY

P.Booker

Q300

6/5

RAW SEQUENCE LISTING
ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information
Center (STIC) detected errors when processing the following computer readable
form:

Application Serial Number: 09/623,568A
Source: 1600
Date Processed by STIC: 8/28/2002

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE
   APPLICANT, WITH A NOTICE TO COMPLY or,
2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A
   NOTICE TO COMPLY
FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
 PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
 PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER
VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:
        http://www.uspto.gov/web/offices/pac/checker

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is
a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the
United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm> , EFS Submission
   User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:
   U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name,
   Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
           Or
   U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two,
   2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office,
   Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002

ERROR DETECTED	SUGGESTED CORRECTION	SERIAL NUMBER: 0 9/623,568A

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

1 _____ Wrapped Nucleics
Wrapped Aminos

The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."

2 _____ Invalid Line Length

The rules require that a line not exceed 72 characters in length. This includes white spaces.

3 _____ Misaligned Amino
Numbering

The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.

4 _____ Non-ASCII

The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.

5 _____ Variable Length

Sequence(s) _____ contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.

6 _____ PatentIn 2.0
"bug"

A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.

7 _____ Skipped Sequences
(OLD RULES)

Sequence(s) _____ missing. If intentional, please insert the following lines for each skipped sequence:
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
(i)   SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped

Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.

8 _____ Skipped Sequences
(NEW RULES)

Sequence(s) _____ missing. If intentional, please insert the following lines for each skipped sequence.
<210> sequence id number
<400> sequence id number
000

9 _____ Use of n's or Xaa's
(NEW RULES)

Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

10 _____ Invalid <213>
Response

Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence

11 _____ Use of <220>

Sequence(s) _____ missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32)   (See 1.823 of Sequence Rules)

12 _____ PatentIn 2.0
"bug"

Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

13 _____ Misuse of n

n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

AMC/MH – Biotechnology Systems Branch – 08/21/2001

RAW SEQUENCE LISTING   DATE: 08/28/2002
PATENT APPLICATION: US/09/623,568A   TIME: 10:39:01

Input Set : A:\EP.txt
Output Set: N:\CRF4\08282002\I623568A.raw

```
 3 <110> APPLICANT: Miller, Barbara
 4         Osmani, Stephen
 5         Clawson, Gary
 6         Zhang, Min-Ying
 7         Norris, James
 9 <120> TITLE OF INVENTION: Use of Human Homolog Of A Nuclear Migration Gene For
Treatment And
10         Diagnosis Of Cancer
12 <130> FILE REFERENCE: PSU-0016
14 <140> CURRENT APPLICATION NUMBER: 09/623,568A
15 <141> CURRENT FILING DATE: 2001-03-23
17 <150> PRIOR APPLICATION NUMBER: 60/076,885
18 <151> PRIOR FILING DATE: 1998-03-05
20 <150> PRIOR APPLICATION NUMBER: PCT US99/04996
21 <151> PRIOR FILING DATE: 1999-03-05
23 <160> NUMBER OF SEQ ID NOS: 16
25 <170> SOFTWARE: PatentIn version 3.1
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 14
29 <212> TYPE: PRT
30 <213> ORGANISM: artificial Sequence
32 <220> FEATURE:
33 <223> OTHER INFORMATION: Peptide
35 <400> SEQUENCE: 1
37 Gly Cys Met Val Glu Lys Met Met Tyr Asp Gln Arg Gln Lys
38 1               5                   10
41 <210> SEQ ID NO: 2
42 <211> LENGTH: 15
43 <212> TYPE: PRT
44 <213> ORGANISM: artificial Sequence
46 <220> FEATURE:
47 <223> OTHER INFORMATION: Peptide
49 <400> SEQUENCE: 2
51 Asn Gly Ser Leu Asp Ser Pro Gly Lys Gln Asp Thr Glu Glu Asp
52 1               5                   10                  15
55 <210> SEQ ID NO: 3
56 <211> LENGTH: 24
57 <212> TYPE: DNA
58 <213> ORGANISM: artificial Sequence
60 <220> FEATURE:
61 <223> OTHER INFORMATION: Oligonucleotide
63 <400> SEQUENCE: 3
64 ttctgttcgt ctgaagttgg cagc                                   24
67 <210> SEQ ID NO: 4
```

insufficient explanation - give source of genetic material (see item 11 on Error Summary Sheet)

same

same error as above

```
 68 <211> LENGTH: 24
 69 <212> TYPE: DNA
 70 <213> ORGANISM: artificial Sequence
 72 <220> FEATURE:
 73 <223> OTHER INFORMATION: Oligonucleotide
 75 <400> SEQUENCE: 4
 76 caatgaagtg aaggtggagg agag                                    24
 79 <210> SEQ ID NO: 5
 80 <211> LENGTH: 38
 81 <212> TYPE: DNA
 82 <213> ORGANISM: artificial Sequence
 84 <220> FEATURE:
 85 <223> OTHER INFORMATION: Oligonucleotide
 87 <400> SEQUENCE: 5
 88 aaggtaccaa gatggactcc ccagggaagc aggatact                     38
 91 <210> SEQ ID NO: 6
 92 <211> LENGTH: 32
 93 <212> TYPE: DNA
 94 <213> ORGANISM: artificial Sequence
 96 <220> FEATURE:
 97 <223> OTHER INFORMATION: Oligonucleotide
 99 <400> SEQUENCE: 6
100 aaggatccaa gaaagttggg tggttgcagc tc                           32
103 <210> SEQ ID NO: 7
104 <211> LENGTH: 20
105 <212> TYPE: DNA
106 <213> ORGANISM: artificial Sequence
108 <220> FEATURE:
109 <223> OTHER INFORMATION: Oligonucleotide
111 <400> SEQUENCE: 7
112 gaaagtcgga ggttcgaaga                                         20
115 <210> SEQ ID NO: 8
116 <211> LENGTH: 20
117 <212> TYPE: DNA
118 <213> ORGANISM: artificial Sequence
120 <220> FEATURE:
121 <223> OTHER INFORMATION: Oligonucleotide
123 <400> SEQUENCE: 8
124 accaactaag aacggccatg                                         20
127 <210> SEQ ID NO: 9
128 <211> LENGTH: 24
129 <212> TYPE: DNA
130 <213> ORGANISM: artificial Sequence
132 <220> FEATURE:
133 <223> OTHER INFORMATION: Oligonucleotide
135 <400> SEQUENCE: 9
136 agcaacatgc cgtcgaaccg ctcc                                    24
139 <210> SEQ ID NO: 10
140 <211> LENGTH: 24
```

RAW SEQUENCE LISTING   DATE: 08/28/2002
PATENT APPLICATION: US/09/623,568A   TIME: 10:39:01

                    Input Set : A:\EP.txt
                    Output Set: N:\CRF4\08282002\I623568A.raw

```
141 <212> TYPE: DNA
142 <213> ORGANISM: artificial Sequence
144 <220> FEATURE:
145 <223> OTHER INFORMATION: Oligonucleotide
147 <400> SEQUENCE: 10
148 ggagcggttc gacggcatgt tgct                                          24
151 <210> SEQ ID NO: 11
152 <211> LENGTH: 1281
153 <212> TYPE: DNA
154 <213> ORGANISM: Homo sapiens
156 <400> SEQUENCE: 11
157 ctagagtgca gagctccggg acgtggatcg gagccggcgc gatgggcgga gagcaggagg    60
159 aggagcggtt cgacggcatg ttgctggcca tggctcagca gcacgagggc ggcgtgcagg   120
161 agcttgtgaa caccttcttc agcttccttc gacgcaaaac agactttttc attggaggag   180
163 aagaagggat ggcagagaag cttatcacac agactttcag ccaccacaat cagctggcac   240
165 agaagacccg gcgggagaag agagcccggc aggaggccga gcggcgggag aaggcggagc   300
167 gggcggccag actggccaag gaagccaagt cagagacctc agggccccag atcaaggagc   360
169 taactgatga agaggcagag aggctgcagc tagagattga ccagaaaaag gatgcagaga   420
171 atcatgaggc ccagctcaag aacggcagcc ttgactcccc agggaagcag gatactgagg   480
173 aagatgagga ggaagatgag aaggacaaag gaaaactgaa gcccaaccta ggcaacgggg   540
175 cagacctgcc caattaccgc tggacccaga ccctgtcgga gctggacctg gcggtccctt   600
177 tctgtgtgaa cttccggctg aaagggaagg acatggtggt ggacatccag cggcggcacc   660
179 tccgggtggg gctcaagggg cagccagcga tcattgatgg ggagctctac aatgaagtga   720
181 aggtggagga gagctcgtgg ctcattgagg acggcaaggt ggtgactgtg catctggaga   780
183 agatcaataa gatggagtgg tggagccgct tggtgtccag tgaccctgag atcaacacca   840
185 agaagattaa ccctgagaat tccaagctgt cagacctgga cagtgagact cgcagcatgg   900
187 tggaaaagat gatgtatgac cagcgacaga agtccatggg gctgccaact tcagacgaac   960
189 agaagaaaca ggagattctg aagaagttca tggatcaaca tccggagatg gatttttcca  1020
191 aggctaaatt caactagccc ctgttttttc ctccctgaac tcttggggct gagctgcaac  1080
193 cacccaactt tctttcccac tcttctctgg gacttgtggg cctcagggct ggggcaggc  1140
195 atgggactgg cccaggcaca caggtcccgg ggcatcagga gaaaggctgg gtcttgggac  1200
197 cttgtcctcc ccagttggcc tactgttaca cattaaaacg atttgcccag ctcaaaaaaa  1260
199 aaaaaaaaaa aaaaaaaaaa a                                             1281
202 <210> SEQ ID NO: 12
203 <211> LENGTH: 331
204 <212> TYPE: PRT
205 <213> ORGANISM: Homo sapiens
207 <400> SEQUENCE: 12
209 Met Gly Gly Glu Gln Glu Glu Glu Arg Phe Asp Gly Met Leu Leu Ala
210  1               5                  10                  15
213 Met Ala Gln Gln His Glu Gly Gly Val Gln Glu Leu Val Asn Thr Phe
214              20                  25                  30
217 Phe Ser Phe Leu Arg Arg Lys Thr Asp Phe Phe Ile Gly Gly Glu Glu
218          35                  40                  45
221 Gly Met Ala Glu Lys Leu Ile Thr Gln Thr Phe Ser His His Asn Gln
222      50                  55                  60
225 Leu Ala Gln Lys Thr Arg Arg Glu Lys Arg Ala Arg Gln Glu Ala Glu
226 65                  70                  75                  80
229 Arg Arg Glu Lys Ala Glu Arg Ala Ala Arg Leu Ala Lys Glu Ala Lys
```

RAW SEQUENCE LISTING   DATE: 08/28/2002
PATENT APPLICATION: US/09/623,568A   TIME: 10:39:01

Input Set : A:\EP.txt
Output Set: N:\CRF4\08282002\I623568A.raw

```
230                     85                   90                   95
233 Ser Glu Thr Ser Gly Pro Gln Ile Lys Glu Leu Thr Asp Glu Glu Ala
234                    100                  105                  110
237 Glu Arg Leu Gln Leu Glu Ile Asp Gln Lys Lys Asp Ala Glu Asn His
238             115                  120                  125
241 Glu Ala Gln Leu Lys Asn Gly Ser Leu Asp Ser Pro Gly Lys Gln Asp
242     130                  135                  140
245 Thr Glu Glu Asp Glu Glu Glu Asp Glu Lys Asp Lys Gly Lys Leu Lys
246 145                  150                  155                  160
249 Pro Asn Leu Gly Asn Gly Ala Asp Leu Pro Asn Tyr Arg Trp Thr Gln
250             165                  170                  175
253 Thr Leu Ser Glu Leu Asp Leu Ala Val Pro Phe Cys Val Asn Phe Arg
254             180                  185                  190
257 Leu Lys Gly Lys Asp Met Val Val Asp Ile Gln Arg Arg His Leu Arg
258             195                  200                  205
261 Val Gly Leu Lys Gly Gln Pro Ala Ile Ile Asp Gly Glu Leu Tyr Asn
262     210                  215                  220
265 Glu Val Lys Val Glu Glu Ser Ser Trp Leu Ile Glu Asp Gly Lys Val
266 225                  230                  235                  240
269 Val Thr Val His Leu Glu Lys Ile Asn Lys Met Glu Trp Trp Ser Arg
270             245                  250                  255
273 Leu Val Ser Ser Asp Pro Glu Ile Asn Thr Lys Lys Ile Asn Pro Glu
274             260                  265                  270
277 Asn Ser Lys Leu Ser Asp Leu Asp Ser Glu Thr Arg Ser Met Val Glu
278             275                  280                  285
281 Lys Met Met Tyr Asp Gln Arg Gln Lys Ser Met Gly Leu Pro Thr Ser
282     290                  295                  300
285 Asp Glu Gln Lys Lys Gln Glu Ile Leu Lys Lys Phe Met Asp Gln His
286 305                  310                  315                  320
289 Pro Glu Met Asp Phe Ser Lys Ala Lys Phe Asn
290             325                  330
293 <210> SEQ ID NO: 13
294 <211> LENGTH: 332
295 <212> TYPE: PRT
296 <213> ORGANISM: Rattus rattus
298 <400> SEQUENCE: 13
300 Met Gly Gly Glu Gln Glu Glu Glu Arg Phe Asp Gly Met Leu Leu Ala
301 1               5                   10                  15
304 Met Ala Gln Gln His Glu Gly Gly Val Gln Glu Leu Val Asn Thr Phe
305             20                   25                   30
308 Phe Ser Phe Leu Arg Arg Lys Thr Asp Phe Phe Ile Gly Gly Glu Glu
309             35                   40                   45
312 Gly Met Ala Glu Lys Leu Ile Thr Gln Thr Phe Asn His His Asn Gln
313     50                   55                   60
316 Leu Ala Gln Lys Ala Arg Arg Glu Lys Arg Ala Arg Gln Glu Thr Glu
317 65                   70                   75                   80
320 Arg Arg Glu Lys Ala Glu Arg Ala Ala Arg Leu Ala Lys Glu Ala Lys
321             85                   90                   95
324 Ala Glu Thr Pro Gly Pro Gln Ile Lys Glu Leu Thr Asp Glu Glu Ala
```

```
325              100              105              110
328 Glu Arg Leu Gln Leu Glu Ile Asp Gln Lys Lys Asp Ala Glu Asn His
329          115              120              125
332 Glu Val Gln Leu Lys Asn Gly Ser Leu Asp Ser Pro Gly Lys Gln Asp
333      130              135              140
336 Ala Glu Glu Glu Glu Asp Glu Glu Asp Glu Lys Asp Lys Gly Lys Leu
337 145              150              155              160
340 Lys Pro Asn Leu Gly Asn Gly Ala Asp Leu Pro Asn Tyr Arg Trp Thr
341              165              170              175
344 Gln Thr Leu Ser Glu Leu Asp Leu Ala Val Pro Phe Arg Val Ser Phe
345          180              185              190
348 Arg Leu Lys Gly Lys Asp Val Val Val Asp Ile Gln Arg Arg His Leu
349          195              200              205
352 Arg Val Gly Leu Lys Gly Gln Ala Pro Val Ile Asp Gly Glu Leu Tyr
353      210              215              220
356 Asn Glu Val Lys Val Glu Glu Ser Ser Trp Leu Ile Glu Asp Gly Lys
357 225              230              235              240
360 Val Val Thr Val His Leu Glu Lys Ile Asn Lys Met Glu Trp Trp Asn
361          245              250              255
364 Arg Leu Val Thr Ser Asp Pro Glu Ile Asn Thr Lys Lys Ile Asn Pro
365          260              265              270
368 Glu Asn Ser Lys Leu Ser Asp Leu Asp Ser Glu Thr Arg Ser Met Val
369          275              280              285
372 Glu Lys Met Met Tyr Asp Gln Arg Gln Lys Ser Met Gly Leu Pro Thr
373      290              295              300
376 Ser Asp Glu Gln Lys Lys Gln Glu Ile Leu Lys Lys Phe Met Asp Gln
377 305              310              315              320
380 His Pro Glu Met Asp Phe Ser Lys Ala Lys Phe Asn
381              325              330
384 <210> SEQ ID NO: 14
385 <211> LENGTH: 198
386 <212> TYPE: PRT
387 <213> ORGANISM: Aspergillus nidulans
389 <400> SEQUENCE: 14
391 Met Ser Glu Gln Glu Pro Ser Ser Ala Asp Leu Ala Ala Arg Glu Ala
392 1            5              10               15
395 Glu Glu Lys Gln Arg Lys Ala Ala Glu Glu Ala Glu Gln Ala Thr Leu
396          20              25              30
399 Pro Tyr Lys Trp Thr Gln Thr Ile Arg Asp Val Asp Val Thr Ile Pro
400      35              40              45
403 Val Ser Ala Asn Leu Lys Gly Arg Asp Leu Asp Val Val Leu Lys Lys
404      50              55              60
407 Asp Ser Ile Lys Val Lys Val Lys Gly Glu Asn Gly Glu Val Phe Ile
408 65              70              75              80
411 Asp Gly Gln Phe Pro His Pro Ile Lys Pro Ser Glu Ser Ser Trp Thr
412              85              90              95
415 Leu Glu Thr Thr Ser Lys Pro Pro Gly Lys Glu Val Ser Ile His Leu
416          100              105              110
419 Asp Lys Val Asn Gln Met Glu Trp Trp Ala His Val Val Thr Thr Ala
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 08/28/2002
PATENT APPLICATION: US/09/623,568A   TIME: 10:39:02

Input Set : A:\EP.txt
Output Set: N:\CRF4\08282002\I623568A.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:16; Xaa Pos. 9,11

VERIFICATION SUMMARY   DATE: 08/28/2002
PATENT APPLICATION: US/09/623,568A   TIME: 10:39:02

Input Set : A:\EP.txt
Output Set: N:\CRF4\08282002\I623568A.raw

L:496 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0